



## BHCTP Monthly Discharge Monitoring Report

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Month: November-15  
Facility: Central Treatment Plant  
Location: Bunker Hill Superfund Site  
Contract Number: W912DW-13-C-0026-P00008

Total Flow For The Month From 006 Outfall: 51,276,900 gallons  
Sludge pumping to CIA sludge pond: 1,080,000 gallons

Total Flow From Kellogg Tunnel: 49,812,540 gallons

Percent of Influent Successfully Treated: 100.0%

13 sample days \* 6 parameters (Pb, Cd, Zn, Mn, TSS & pH) = 78 potential exceedances  
**78 - 0 exceedances = 78      78/78 = 100%**

### Results of Sampling Efforts:

All sampling has been performed in accordance with specifications and the Sampling and Analysis Plan. QC and QA samples have been taken as required. All sample analysis results may be found within this DMR.

Performance Evaluation (PE) sampling for the CTP continued, with four PE samples delivered to SVL for this reporting period. The PE samples were identified as CTPXX (random CTP sites). These samples consisted of preserved 500-ml trace metal samples to be analyzed for Cd, Pb and Zn. The PE acceptable quantitation range is listed on the 'QC' page of this DMR.

Trip blank and rinsate samples were also taken, with the results being reported on the 'PTM-004,RB,TB' page of this DMR.

### Highlights of Plant Maintenance and/or Plant Optimization:

**11-01-15** Performed monthly fire extinguisher inspection. All CTP fire extinguishers are fully charged and in good working condition at this time.

**11-02-15** Performed monthly pump and motor inspection. All CTP pumps and motors are in good condition at this time with the exception of the Rapid Mix gear box. Gear box vibration is increasing.

**11-05-15** Operators discovered 18 golf balls on the south side of the Clarifier. This is the second time in two months that the CTP operators have found golf balls on the ground in this area. It is apparent that the golf balls are being launched in the direction of the Clarifier. At this time, no golf balls have been found in the underflow pipes or the recycle pumps.

**11-09-15** Operators installed a new pH probe at the Aeration Basin location. The existing pH probe transmitted 2 short-term fail indications during the past three days. One pH probe was removed from inventory stock.

**11-10-15** Operators installed a new pH probe signal cable as the pH system continued to indicate probe failures. The probe signal cable was removed from inventory stock.

**11-10-15** Performed a no-load emergency generator run test and diagnostics. CTP generator was operated for 30 minutes with no issues or errors.

**11-12-15** Lime slurry loop #2 freeze protection electrical breaker was found to have failed. Operators purchased and installed a replacement breaker. Moisture collection containers were also purchased and installed in the freeze protection electrical panel to prevent condensation buildup. The new electrical breaker did not resolve the issue. An electrician performed repair on November 30th. Heat trace is now in good working condition.

**11-17-15** Operators performed repairs to the pump building sump pump piping. The backflow prevention valve failed during the night, preventing the building sump pump from operating. The valve was repaired by the CTP operators. Operators cleaned the pump building floor and placed the sump pump back into service.

**11-17-15** Operator performed manual restart of all CTP pumps and motors after a short-term power outage. The CTP operated on generator power for 30 minutes (11:45-12:15) during the power outage.  
20:00 An extended power outage initiated the emergency generator run. The generator operated the entire CTP with no issues or errors.

**11-18-15** The emergency generator continues to provide full operating power to the CTP. The extended power outage lasted 14 hours. Operators continued to perform plant and generator inspections during the extended outage, as the auto-dialer is not operable during generator run periods.

**11-18-15** Operators performed repairs to the Rapid Mix Tank drive motor power connection. The power connection failed during the automatic power switchover from generator to city power.

**11-19-15** Chief Operator and Process Engineer attended the monthly CTP process review meeting. Process quality, plant operations and operator work schedules were reviewed. Treated outfall and KT discharge sample analyses were also reviewed.

The CTP treatment process is producing excellent discharge quality at this time. The pH set point will remain at 8.3.

**11-23-15** Operators performed troubleshooting and attempted repairs to the lime system sump level indicator. The ultrasonic indicator has failed and is in need of replacement.

**11-23-15** Operators performed the monthly full load emergency generator run test. The emergency generator operated all CTP components for one hour as programmed with no issues or errors to report.

**11-30-15** Electrician inspected the lime slurry loop heat trace, lime silo sump level indicator and the pump building exterior lighting. Electrician verified that the sump level indicator has failed. The exterior lights need new starters and ballasts. The heat trace system was repaired and is working at this time.

**During this reporting period:**

- The Kellogg Tunnel discharge flow decreased by 10% from November 2014, from 55.1 mg to 49.8 mg.
- The Kellogg Tunnel zinc concentration decreased by 20% from November 2014, from an average of 55 mg/L to 44 mg/L.
- The CTP operating pH set point was increased to 8.5 from 8.3 during extended KT low-flow periods.
- The flocculent dosage remained at approximately 3 ppm to reduce process turbidity.
- The CTP sludge recycle rate remained at 400 gpm.
- CTP operators received one long-term off-shift auto dialer call-out alarm associated with the extended power outage.
- CTP operators performed no pumping events from the Lined Pond.
- CTP operators performed Aeration Basin pH probe and grab sample verification twice per day.
- CTP operators observed no mill discharge in the Kellogg Tunnel flow.

**Lessons Learned**

No significant lessons to report for last month.

| MONITORING PERIOD |    |     |      |    |     |
|-------------------|----|-----|------|----|-----|
| YEAR              | MO | DAY | YEAR | MO | DAY |
| 2015              | 11 | 1   | 2015 | 11 | 30  |

| PARAMETER                    |                    | Quantity or Loading |               |         | Quality or Concentration |                 |               |       | FREQUENCY OF ANALYSIS | SAMPLE TYPE |
|------------------------------|--------------------|---------------------|---------------|---------|--------------------------|-----------------|---------------|-------|-----------------------|-------------|
|                              |                    | MONTHLY AVERAGE     | DAILY MAXIMUM | UNITS   | MINIMUM                  | MONTHLY AVERAGE | DAILY MAXIMUM | UNITS |                       |             |
| pH                           | Sample Measurement |                     |               |         | 6.91                     |                 | 7.17          |       | Continuous            | Meter       |
|                              | Permit Required    |                     |               |         | 6.0                      |                 | 10.0          |       |                       |             |
| Flow Thru Treatment Plant    | Sample Measurement | 1.78                | 2.15          | mgd     |                          |                 |               |       |                       |             |
|                              | Permit Required    |                     | Daily         |         |                          |                 |               |       |                       |             |
| Lead Total - Pb Effluent     | Sample Measurement | 0.04                | 0.06          | lbs/day |                          | 0.003           | 0.003         | mg/L  | three samples/ week   | Comp 24     |
|                              | Permit Required    | 14.8                | 37.0          |         |                          | 0.30            | 0.60          | mg/L  |                       |             |
| Zinc Total - Zn Effluent     | Sample Measurement | 3.68                | 8.25          | lbs/day |                          | 0.25            | 0.47          | mg/L  | three samples/ week   | Comp 24     |
|                              | Permit Required    | 36.2                | 91.3          |         |                          | 0.73            | 1.48          | mg/L  |                       |             |
| Cadmium - Cd Effluent        | Sample Measurement | 0.058               | 0.181         | lbs/day |                          | 0.004           | 0.010         | mg/L  | three samples/ week   | Comp 24     |
|                              | Permit Required    | 2.40                | 6.10          |         |                          | 0.050           | 0.100         | mg/L  |                       |             |
| Manganese - Mn Effluent      | Sample Measurement | 407.0               | 603           | lbs/day |                          | 27.7            | 36.1          | mg/L  | three samples/ week   | Comp 24     |
|                              | No Permit Required |                     |               |         |                          | N/A             | N/A           | mg/L  |                       |             |
| Total Suspended Solids - TSS | Sample Measurement | 23.4                | 63            | lbs/day |                          | 1.6             | 5.0           | mg/L  | three samples/ week   | Comp 24     |
|                              | Permit Required    | 985                 | 1907          |         |                          | 20              | 30            | mg/L  |                       |             |

PREPARED BY: GARY FULTON

REVIEWED BY: Mark Reinsel, Ph.D., P.E.

**NPDES DISCHARGE POINT 006**  
**CENTRAL TREATMENT PLANT**  
**MONTH: Nov-15**

| DAY                 | LEAD (Pb)    |              | ZINC (Zn) |              | CADMIUM (Cd) |         | MANGANESE (Mn) |         | pH          | FLOW  |              | TSS     |       | LOADING<br>kg/day |
|---------------------|--------------|--------------|-----------|--------------|--------------|---------|----------------|---------|-------------|-------|--------------|---------|-------|-------------------|
|                     | mg/L         | lbs/day      | mg/L      | lbs/day      | mg/L         | lbs/day | mg/L           | lbs/day |             | mgd   | mg/L         | lbs/day | mg/L  |                   |
| 1                   |              |              |           |              |              |         |                |         |             | 2.15  |              |         |       |                   |
| 2                   | 0.003        | 0.05         | 0.186     | 3.16         | 0.003        | 0.04    | 29.1           | 494     | 7.10        | 2.03  | 1.8          | 30.6    | 13.86 |                   |
| 3                   |              |              |           |              |              |         |                |         |             | 1.08  |              |         |       |                   |
| 4                   | 0.003        | 0.04         | 0.263     | 3.29         | 0.004        | 0.05    | 28.7           | 359     | 6.92        | 1.50  | 5.0          | 62.6    | 28.39 |                   |
| 5                   |              |              |           |              |              |         |                |         |             | 1.98  |              |         |       |                   |
| 6                   | 0.003        | 0.05         | 0.473     | 8.25         | 0.010        | 0.18    | 23.6           | 412     | 7.10        | 2.09  | 1.6          | 27.9    | 12.7  |                   |
| 7                   |              |              |           |              |              |         |                |         |             | 2.04  |              |         |       |                   |
| 8                   |              |              |           |              |              |         |                |         |             | 2.04  |              |         |       |                   |
| 9                   | 0.003        | 0.05         | 0.226     | 3.78         | 0.004        | 0.07    | 32.5           | 543     | 7.13        | 2.00  | 1.6          | 26.8    | 12.1  |                   |
| 10                  |              |              |           |              |              |         |                |         |             | 1.12  |              |         |       |                   |
| 11                  | 0.003        | 0.02         | 0.186     | 1.35         | 0.003        | 0.02    | 27.9           | 203     | 7.10        | 0.87  | 0.8          | 5.8     | 2.64  |                   |
| 12                  |              |              |           |              |              |         |                |         |             | 1.79  |              |         |       |                   |
| 13                  | 0.003        | 0.06         | 0.194     | 3.24         | 0.004        | 0.06    | 18.0           | 300     | 7.17        | 2.00  | 1.0          | 16.7    | 7.57  |                   |
| 14                  |              |              |           |              |              |         |                |         |             | 2.07  |              |         |       |                   |
| 15                  |              |              |           |              |              |         |                |         |             | 2.08  |              |         |       |                   |
| 16                  | 0.003        | 0.05         | 0.207     | 3.35         | 0.003        | 0.06    | 31.3           | 506     | 7.05        | 1.94  | 1.8          | 29.13   | 13.21 |                   |
| 17                  |              |              |           |              |              |         |                |         |             | 1.06  |              |         |       |                   |
| 18                  | 0.003        | 0.02         | 0.223     | 1.58         | 0.004        | 0.03    | 29.3           | 208     | 7.13        | 0.85  | 1.0          | 7.1     | 3.22  |                   |
| 19                  |              |              |           |              |              |         |                |         |             | 0.98  |              |         |       |                   |
| 20                  | 0.003        | 0.04         | 0.269     | 4.00         | 0.002        | 0.03    | 17.0           | 253     | 7.07        | 1.78  | 0.8          | 11.9    | 5.39  |                   |
| 21                  |              |              |           |              |              |         |                |         |             | 1.96  |              |         |       |                   |
| 22                  |              |              |           |              |              |         |                |         |             | 2.10  |              |         |       |                   |
| 23                  | 0.003        | 0.05         | 0.238     | 3.77         | 0.004        | 0.06    | 30.5           | 483     | 7.09        | 1.90  | 1.2          | 19.0    | 8.62  |                   |
| 24                  |              |              |           |              |              |         |                |         |             | 1.86  |              |         |       |                   |
| 25                  | 0.003        | 0.05         | 0.261     | 4.36         | 0.004        | 0.06    | 36.1           | 603     | 7.12        | 2.00  | 1.2          | 20.0    | 9.08  |                   |
| 26                  |              |              |           |              |              |         |                |         |             | 2.07  |              |         |       |                   |
| 27                  | 0.003        | 0.05         | 0.215     | 3.59         | 0.003        | 0.05    | 19.5           | 325     | 6.91        | 2.00  | 1.4          | 23.4    | 10.60 |                   |
| 28                  |              |              |           |              |              |         |                |         |             | 2.14  |              |         |       |                   |
| 29                  |              |              |           |              |              |         |                |         |             | 2.00  |              |         |       |                   |
| 30                  | 0.003        | 0.05         | 0.244     | 4.07         | 0.003        | 0.05    | 36.1           | 603     | 6.94        | 2.00  | 1.4          | 23.4    | 10.60 |                   |
|                     |              |              |           |              |              |         |                |         |             |       |              |         |       |                   |
| Total               | 0.039        | 0.58         | 3.19      | 47.8         | 0.05         | 0.75    | 359.6          | 5291    | 91.8        | 53.48 | 20.6         | 304.2   | 138.0 |                   |
| Sample Events       | 13           | 13           | 13        | 13           | 13           | 13      | 13             | 13      | 13          | 30    | 13           | 13      | 13    |                   |
| Daily Average       | 0.003        | 0.04         | 0.25      | 3.68         | 0.004        | 0.06    | 27.7           | 407     | 7.06        | 1.78  | 1.58         | 23.40   | 10.61 |                   |
| Lab Detection Limit | <b>0.003</b> | <b>0.004</b> |           | <b>0.001</b> |              |         | <b>0.004</b>   |         | <b>0.01</b> |       | <b>0.800</b> |         |       |                   |

|     |        |      |      |      |        |      |       |     |      |      |      |       |       |
|-----|--------|------|------|------|--------|------|-------|-----|------|------|------|-------|-------|
| MIN | 0.003  | 0.02 | 0.19 | 1.35 | 0.0021 | 0.02 | 17.00 | 203 | 6.91 | 0.85 | 0.80 | 5.81  | 2.64  |
| MAX | 0.0033 | 0.06 | 0.47 | 8.25 | 0.0104 | 0.18 | 36.10 | 603 | 7.17 | 2.15 | 5.00 | 62.59 | 28.39 |

**KELLOGG TUNNEL DISCHARGE**  
**CENTRAL TREATMENT PLANT**  
**MONTH: Nov-15**  
**Data from SVL**

| DAY | LEAD (Pb) |         | ZINC (Zn) |         | CADMIUM (Cd) |         | MANGANESE (Mn) |         | pH   | 006 FLOW |      | TSS     |        |
|-----|-----------|---------|-----------|---------|--------------|---------|----------------|---------|------|----------|------|---------|--------|
|     | mg/L      | lbs/day | mg/L      | lbs/day | mg/L         | lbs/day | mg/L           | lbs/day |      | mgd      | mg/L | lbs/day | kg/day |
| 1   |           |         |           |         |              |         |                |         | 2.15 |          |      |         |        |
| 2   | 0.449     | 7.62    | 43        | 728     | 0.062        | 1.05    | 73             | 1,239   | 3.26 | 2.03     | 59   | 1,001   | 454    |
| 3   |           |         |           |         |              |         |                |         | 1.08 |          |      |         |        |
| 4   |           |         |           |         |              |         |                |         | 1.50 |          |      |         |        |
| 5   | 0.441     | 7.27    | 39        | 649     | 0.062        | 1.02    | 78             | 1,292   | 3.58 | 1.98     | 56   | 923     | 419    |
| 6   |           |         |           |         |              |         |                |         | 2.09 |          |      |         |        |
| 7   |           |         |           |         |              |         |                |         | 2.04 |          |      |         |        |
| 8   |           |         |           |         |              |         |                |         | 2.04 |          |      |         |        |
| 9   | 0.461     | 7.71    | 44        | 727     | 0.062        | 1.04    | 73             | 1,226   | 3.63 | 2.00     | 50   | 836     | 379    |
| 10  |           |         |           |         |              |         |                |         | 1.12 |          |      |         |        |
| 11  |           |         |           |         |              |         |                |         | 0.87 |          |      |         |        |
| 12  | 0.502     | 7.48    | 38        | 566     | 0.058        | 0.86    | 76             | 1,131   | 3.58 | 1.79     | 59   | 879     | 399    |
| 13  |           |         |           |         |              |         |                |         | 2.00 |          |      |         |        |
| 14  |           |         |           |         |              |         |                |         | 2.07 |          |      |         |        |
| 15  |           |         |           |         |              |         |                |         | 2.08 |          |      |         |        |
| 16  | 0.445     | 7.20    | 38        | 612     | 0.059        | 0.95    | 76             | 1,227   | 3.70 | 1.94     | 55   | 890     | 404    |
| 17  |           |         |           |         |              |         |                |         | 1.06 |          |      |         |        |
| 18  |           |         |           |         |              |         |                |         | 0.85 |          |      |         |        |
| 19  | 0.534     | 4.37    | 80        | 653     | 0.132        | 1.08    | 29             | 236     | 2.98 | 0.98     | 29   | 237     | 108    |
| 20  |           |         |           |         |              |         |                |         | 1.78 |          |      |         |        |
| 21  |           |         |           |         |              |         |                |         | 1.96 |          |      |         |        |
| 22  |           |         |           |         |              |         |                |         | 2.10 |          |      |         |        |
| 23  | 0.526     | 8.33    | 39        | 609     | 0.059        | 0.93    | 78             | 1,238   | 3.77 | 1.90     | 47   | 744     | 337    |
| 24  |           |         |           |         |              |         |                |         | 1.86 |          |      |         |        |
| 25  |           |         |           |         |              |         |                |         | 2.00 |          |      |         |        |
| 26  | 0.474     | 8.17    | 38        | 648     | 0.057        | 0.98    | 77             | 1,333   | 3.82 | 2.07     | 27   | 465     | 211    |
| 27  |           |         |           |         |              |         |                |         | 2.00 |          |      |         |        |
| 28  |           |         |           |         |              |         |                |         | 2.14 |          |      |         |        |
| 29  |           |         |           |         |              |         |                |         | 2.00 |          |      |         |        |
| 30  | 0.455     | 7.59    | 38        | 629     | 0.056        | 0.93    | 79             | 1,322   | 3.83 | 2.00     | 34   | 567     | 257    |

**PTM Effluent at Lined Storage Pond  
CENTRAL TREATMENT PLANT**

**Month: Nov-15**

| DATE     | LEAD<br>mg/L | ZINC<br>mg/L | CADMIUM<br>mg/L | pH<br>s.u. | TSS<br>mg/L |
|----------|--------------|--------------|-----------------|------------|-------------|
| 11/05/15 | 0.003        | 8.6          | 1.18            | 6.91       | 0.4         |
|          |              |              |                 |            |             |
| 11/19/15 | 0.003        | 8.9          | 1.21            | 6.85       | 0.4         |
|          |              |              |                 |            |             |
|          |              |              |                 |            |             |

**RINSATE AND TRIP BLANKS  
CENTRAL TREATMENT PLANT**

**Month: Nov-15**

**Rinsate and Trip Blank samples will be taken approximately every 20 QC events, or one each per month.**

| LOCATION                        | DATE         | SAMPLE      | LEAD<br>mg/L | ZINC<br>mg/L | CADMIUM<br>mg/L |
|---------------------------------|--------------|-------------|--------------|--------------|-----------------|
| <b>Rinsate &amp; Trip Blank</b> |              |             |              |              |                 |
| Treated Discharge               | 006-11-04-15 | RB-11-04-15 | <0.01        | <0.004       | <0.002          |
| Trip Blank (D.I. water)         |              | TB-11-04-15 | <0.01        | <0.004       | <0.002          |

**CENTRAL TREATMENT PLANT****MISCELLANEOUS FLOWS**Month : **Nov-15**

| Date              | <b>KT Flow Meter Reading</b> |
|-------------------|------------------------------|
| <b>10/31/2015</b> | 0                            |
| <b>11/30/2015</b> | 49,812,540                   |
| <b>Total</b>      | <b>49,812,540</b>            |

| Date              | <b>006 Flow Meter Reading</b> |
|-------------------|-------------------------------|
| <b>10/31/2015</b> | 0                             |
| <b>11/30/2015</b> | 51,276,900                    |
| <b>Total</b>      | <b>51,276,900</b>             |

| <b>Sweeny Pump Station Reading</b>        |         |         |         |         |
|---|---------|---------|---------|---------|
| Date                                      | #1 Pump | 620 gpm | #2 Pump | 500 gpm |
| <b>10/31/2015</b>                         | 170.0   | Hours   | 785.0   | Hours   |
| <b>11/30/2015</b>                         | 170.0   | Hours   | 785.0   | Hours   |
| Total Hours                               | 0.0     | Hours   | 0.0     | Hours   |
| Total Flow for 004/Sweeny For The Month = |         | 0       |         | Gallons |

**PTM Discharge Flow**

| Date     | Flow (gpm) |
|----------|------------|
| 11/05/15 | 3.0        |
| 11/19/15 | 4.0        |

| Date              | <b>Lined Storage Pond Water Level</b> |     |                |
|-------------------|---------------------------------------|-----|----------------|
| <b>10/31/2015</b> | 1,250,000                             | gal | Elev. = 2269.5 |
| <b>11/30/2015</b> | 750,000                               | gal | Elev. = 2268.5 |



| KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2000-2009 |                   |             |             |             |             |             |             |             |             |             |
|---|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|   | 2000              | 2001        | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        |
| <b>Jan.</b>                                     | 61,000,000        | 61,677,510  | 54,606,100  | 53,066,890  | 52,223,080  | 53,150,000  | 56,050,900  | 56,281,000  | 53,465,820  | 50,936,960  |
| <b>Feb.</b>                                     | 57,600,000        | 45,584,000  | 52,840,000  | 46,493,470  | 48,306,920  | 49,860,000  | 51,188,000  | 50,511,300  | 49,282,209  | 48,146,111  |
| <b>March</b>                                    | 60,730,000        | 57,740,360  | 50,452,060  | 60,162,290  | 59,852,720  | 58,073,000  | 56,332,830  | 65,443,650  | 54,578,130  | 61,712,540  |
| <b>April</b>                                    | 68,680,000        | 54,846,000  | 65,583,230  | 63,335,350  | 50,715,310  | 53,775,350  | 72,039,280  | 66,636,500  | 61,690,530  | 63,055,350  |
| <b>May</b>                                      | <b>97,719,900</b> | 57,501,901  | 76,082,410  | 63,335,350  | 53,245,000  | 54,181,650  | 72,027,000  | 63,203,308  | 86,680,760  | 70,233,580  |
| <b>June</b>                                     | 69,800,000        | 55,835,590  | 67,299,960  | 59,532,434  | 50,451,170  | 51,750,000  | 68,385,600  | 57,981,410  | 82,622,590  | 64,623,180  |
| <b>July</b>                                     | 63,698,850        | 53,652,330  | 64,820,120  | 66,252,746  | 56,538,980  | 55,255,000  | 64,054,000  | 58,282,900  | 66,324,500  | 61,535,000  |
| <b>Aug.</b>                                     | 66,707,120        | 45,289,000  | 58,212,940  | 62,074,750  | 52,002,140  | 49,970,000  | 64,621,000  | 55,335,900  | 65,168,620  | 56,446,670  |
| <b>Sept.</b>                                    | 55,797,530        | 50,276,020  | 60,140,460  | 43,789,000  | 49,208,020  | 49,987,000  | 54,515,270  | 50,471,870  | 61,074,020  | 57,006,430  |
| <b>Oct.</b>                                     | 60,424,720        | 50,660,840  | 54,485,871  | 52,869,290  | 59,601,690  | 52,807,000  | 57,610,030  | 50,086,330  | 58,666,300  | 55,830,000  |
| <b>Nov.</b>                                     | 53,408,660        | 50,660,840  | 51,072,259  | 47,600,000  | 51,948,000  | 50,722,600  | 55,191,700  | 50,779,040  | 52,041,780  | 54,956,800  |
| <b>Dec.</b>                                     | 56,414,870        | 53,464,780  | 56,034,000  | 56,413,080  | 56,770,000  | 54,904,400  | 60,486,900  | 53,716,210  | 55,727,260  | 54,542,700  |
| <b>Totals</b>                                   | 771,981,650       | 637,189,171 | 711,629,410 | 674,924,650 | 640,863,030 | 634,436,000 | 732,502,510 | 678,729,418 | 747,322,519 | 699,025,321 |

| KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2010-2019 |             |                   |                    |                    |                    |                    |      |      |      |      |
|---|-------------|-------------------|--------------------|--------------------|--------------------|--------------------|------|------|------|------|
|   | 2010        | 2011              | 2012               | 2013               | 2014               | 2015               | 2016 | 2017 | 2018 | 2019 |
| <b>Jan.</b>                                     | 55,503,180  | 61,797,170        | 58,434,610         | <b>61,855,400</b>  | 57,478,450         | 58,440,540         |      |      |      |      |
| <b>Feb.</b>                                     | 50,819,910  | 54,556,227        | 57,763,170         | 59,383,290         | 54,607,950         | <b>59,767,470</b>  |      |      |      |      |
| <b>March</b>                                    | 54,691,420  | 61,373,630        | <b>67,236,650</b>  | 66,264,780         | 65,396,350         | 64,468,230         |      |      |      |      |
| <b>April</b>                                    | 56,255,340  | 65,687,340        | <b>81,233,630</b>  | 69,619,100         | 65,618,770         | 63,056,840         |      |      |      |      |
| <b>May</b>                                      | 58,825,640  | 84,365,390        | <b>86,826,340</b>  | 71,496,380         | 80,598,590         | 61,898,200         |      |      |      |      |
| <b>June</b>                                     | 56,770,200  | 79,985,540        | <b>83,440,990</b>  | 64,663,900         | 65,623,330         | <b>56,368,540</b>  |      |      |      |      |
| <b>July</b>                                     | 56,727,510  | <b>79,346,330</b> | 74,315,690         | 62,844,790         | 63,425,030         | 55,655,000         |      |      |      |      |
| <b>Aug.</b>                                     | 56,239,370  | <b>70,377,570</b> | 68,986,900         | 58,459,380         | 61,486,270         | 55,316,100         |      |      |      |      |
| <b>Sept.</b>                                    | 54,109,980  | 60,404,280        | <b>62,270,300</b>  | 58,097,500         | 56,279,590         | 53,890,000         |      |      |      |      |
| <b>Oct.</b>                                     | 55,480,200  | <b>62,403,480</b> | 59,991,850         | 58,325,780         | 60,659,850         | 52,082,800         |      |      |      |      |
| <b>Nov.</b>                                     | 54,856,880  | <b>58,430,700</b> | 57,184,220         | 56,215,000         | 55,065,100         | 49,812,540         |      |      |      |      |
| <b>Dec.</b>                                     | 54,607,330  | 58,617,700        | <b>61,750,390</b>  | 56,932,530         | 59,770,540         | .                  |      |      |      |      |
| <b>Totals</b>                                   | 664,886,960 | 797,345,357       | <b>819,434,740</b> | <b>744,157,830</b> | <b>746,009,820</b> | <b>630,756,260</b> | 0    | 0    | 0    | 0    |

Yellow indicates record monthly flow as well as record annual flow

## KELLOGG TUNNEL ZINC DATA

| Month                        | Concentration (mg/L) |      |      |      |      |      |      |      |      |      |       |      |
|------------------------------|----------------------|------|------|------|------|------|------|------|------|------|-------|------|
|                              | 2004                 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014  | 2015 |
| Jan.                         |                      | 86   | 81   | 79   | 63   | 70   | 61   | 72   | 57   | 68   | 41    | 46   |
| Feb.                         |                      | 86   | 91   | 96   | 55   | 72   | 57   | 95   | 58   | 68   | 41    | 68   |
| March                        |                      | 94   | 116  | 86   | 65   | 68   | 53   | 86   | 58   | 69   | 58    | 81   |
| April                        |                      | 98   | 121  | 140  | 85   | 80   | 50   | 137  | 176  | 86   | 107   | 92   |
| May                          |                      | 105  | 231  | 179  | 318  | 136  | 57   | 377  | 215  | 150  | 177   | 87   |
| June                         |                      | 107  | 182  | 118  | 271  | 143  | 68   | 347  | 164  | 106  | 131   | 78   |
| July                         |                      | 90   | 144  | 111  | 198  | 117  | 75   | 181  | 136  | 87   | 87    | 75   |
| Aug.                         |                      | 87   | 112  | 92   | 132  | 94   | 79   | 130  | 110  | 86   | 76    | 66   |
| Sept.                        |                      | 84   | 107  | 80   | 107  | 76   | 81   | 132  | 107  | 75   | 66    | 63   |
| Oct.                         |                      | 59   | 81   | 100  | 88   | 99   | 75   | 70   | 86   | 70   | 67    | 63   |
| Nov.                         |                      | 66   | 79   | 88   | 88   | 104  | 63   | 57   | 95   | 71   | 70    | 55   |
| Dec.                         |                      | 67   | 62   | 78   | 65   | 76   | 59   | 61   | 88   | 69   | 54    | 49   |
| average                      |                      | 64   | 88   | 121  | 102  | 131  | 88   | 64   | 152  | 108  | 82    | 79   |
| lime usage<br>(tons/day)     |                      | 2.59 | 3.23 | 2.76 | 4.78 | 3.24 | 2.16 | 4.31 | 3.93 | 2.46 | 2.70  |      |
| Zinc Conc. Increase/Decrease |                      | 37%  | -16% | 29%  | -33% | -27% | 138% | -29% | -24% | -4%  | -14%  |      |
| Lime Usage Increase/Decrease |                      | 25%  | -15% | 73%  | -32% | -33% | 100% | -9%  | -37% | 10%  | -100% |      |

| <b>Bunker Hill Superfund Site</b>              |          |           |         |        |       |           |                   |
|--|----------|-----------|---------|--------|-------|-----------|-------------------|
| <b>Kellogg, Idaho</b>                          |          |           |         |        |       |           |                   |
| <b>Central Treatment Plant Review</b>          |          |           |         |        |       |           |                   |
| Month: Nov-15                                  |          |           |         |        |       |           |                   |
| SAMPLE   | DATE     | PARAMETER | VALUE   | QC/dup | UNITS | PRECISION | MATRIX SPIKE DATA |
| LOCATION                                       |          |           | RESULTS |        |       | % RPD     | % RECOVERY        |
| 006/CTP Outfall                                | 11/02/15 | Cadmium   | 0.003   | 0.002  | mg/L  | 8.3%      | 95%               |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 96%               |
| Lab Duplicate                                  |          | Manganese | 29.1    | 29.0   | mg/L  | 0.3%      | 100%              |
|  |          | Zinc      | 0.186   | 0.186  | mg/L  | 0.0%      | 96%               |
|  |          | pH        | 7.10    | 7.05   | s.u.  | 0.7%      |                   |
|  |          | TSS       | 1.8     | 1.8    | mg/L  | 0.0%      |                   |
| Kellogg Tunnel                                 | 11/02/15 | Cadmium   | 0.062   | 0.061  | mg/L  | 1.5%      | 98%               |
|  |          | Lead      | 0.449   | 0.452  | mg/L  | -0.7%     | 93%               |
| Lab Duplicate                                  |          | Manganese | 73.0    | 71.4   | mg/L  | 2.2%      |                   |
|  |          | Zinc      | 42.9    | 42.6   | mg/L  | 0.7%      |                   |
|  |          | pH        |         |        | s.u.  |           |                   |
|  |          | TSS       |         |        | mg/L  |           |                   |
| RB-11-04-15                                    | 11/04/15 | Cadmium   | 0.009   | 0.002  | mg/L  | 118.6%    | 99%               |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 92%               |
| Lab Duplicate                                  |          | Zinc      | 0.004   | 0.004  | mg/L  | 0.0%      | 93%               |
|  |          | Manganese |         |        | mg/L  |           |                   |
| 006/CTP Outfall                                | 11/04/15 | Cadmium   | 0.004   | 0.004  | mg/L  | 2.7%      |                   |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      |                   |
| QC Sample                                      |          | Manganese | 28.7    | 28.4   | mg/L  | 1.1%      |                   |
|  |          | Zinc      | 0.263   | 0.257  | mg/L  | 2.3%      |                   |
|  |          | pH        | 6.92    | 6.93   | s.u.  | -0.1%     |                   |
|  |          | TSS       | 5.0     | 7.0    | mg/L  | -33.3%    |                   |
| 006/CTP Outfall                                | 11/04/15 | Cadmium   | 0.004   | 0.004  | mg/L  | -5.1%     | 97%               |
|  |          | Lead      | 0.003   | 0.004  | mg/L  | -28.6%    | 90%               |
| Lab Duplicate                                  |          | Manganese | 28.7    | 28.2   | mg/L  | 1.8%      |                   |
|  |          | Zinc      | 0.263   | 0.261  | mg/L  | 0.8%      | 96%               |
|  |          | pH        | 6.92    | 6.88   | s.u.  | 0.6%      |                   |
|  |          | TSS       | 5.0     | 5.0    | mg/L  | 0.0%      |                   |
| Performance Evaluation Sample (CTPXX-11-05-15) | 11/05/15 | Cadmium   | 0.053   | 0.050  | mg/L  | 4.9%      |                   |
|  |          | Lead      | 0.316   | 0.300  | mg/L  | 5.2%      |                   |
|  |          | Zinc      | 0.839   | 0.730  | mg/L  | 13.9%     |                   |
| CTPXX-11-05-15                                 | 11/05/15 | Cadmium   | 0.053   | 0.053  | mg/L  | -0.8%     | 98%               |
|  |          | Lead      | 0.316   | 0.314  | mg/L  | 0.6%      | 95%               |
| Lab Duplicate                                  |          | Manganese | 0.002   | 0.002  | mg/L  | 0.0%      | 99%               |
|  |          | Zinc      | 0.839   | 0.839  | mg/L  | 0.0%      | 92%               |
| 006/CTP Outfall                                | 11/06/15 | Cadmium   | 0.010   | 0.010  | mg/L  | 5.9%      | 102%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | -12.5%    | 95%               |
| Lab Duplicate                                  |          | Manganese | 23.6    | 23.2   | mg/L  | 1.7%      |                   |
|  |          | Zinc      | 0.473   | 0.471  | mg/L  | 0.4%      | 92%               |
|  |          | pH        | 7.10    | 7.08   | s.u.  | 0.3%      |                   |
|  |          | TSS       | 1.6     | 1.6    | mg/L  | 0.0%      |                   |
| 006/CTP Outfall                                | 11/09/15 | Cadmium   | 0.004   | 0.004  | mg/L  | 2.4%      | 103%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 96%               |
| Lab Duplicate                                  |          | Manganese | 32.5    | 32.9   | mg/L  | -1.2%     |                   |

| SAMPLE   | DATE     | PARAMETER | VALUE   | QC/dup | UNITS | PRECISION | MATRIX SPIKE DATA |
|--|----------|-----------|---------|--------|-------|-----------|-------------------|
| LOCATION                                       |          |           | RESULTS |        |       | % RPD     | % RECOVERY        |
|  |          | Zinc      | 0.226   | 0.224  | mg/L  | 0.9%      | 96%               |
|  |          | pH        | 7.13    | 7.10   | s.u.  | 0.4%      |                   |
|  |          | TSS       | 1.6     | 1.6    | mg/L  | 0.0%      |                   |
| Kellogg Tunnel                                 | 11/09/15 | Cadmium   | 0.062   | 0.063  | mg/L  | -1.6%     | 100%              |
|  |          | Lead      | 0.461   | 0.461  | mg/L  | 0.0%      | 94%               |
| Lab Duplicate                                  |          | Manganese | 73.3    | 73.8   | mg/L  | -0.7%     |                   |
|  |          | Zinc      | 43.5    | 43.5   | mg/L  | 0.0%      |                   |
|  |          | pH        |         |        | s.u.  |           |                   |
|  |          | TSS       |         |        | mg/L  |           |                   |
| 006/CTP Outfall                                | 11/11/15 | Cadmium   | 0.003   | 0.002  | mg/L  | 16.7%     | 98%               |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 97%               |
| Lab Duplicate                                  |          | Manganese | 27.9    | 28.0   | mg/L  | -0.4%     |                   |
|  |          | Zinc      | 0.186   | 0.183  | mg/L  | 1.6%      | 93%               |
|  |          | pH        | 7.10    | 7.07   | s.u.  | 0.4%      |                   |
|  |          | TSS       | 0.8     | 1.6    | mg/L  | -66.7%    |                   |
| Performance Evaluation Sample (CTPXX-11-12-15) | 11/12/15 | Cadmium   | 0.051   | 0.050  | mg/L  | 2.2%      |                   |
|  |          | Lead      | 0.310   | 0.300  | mg/L  | 3.3%      |                   |
|  |          | Zinc      | 0.850   | 0.730  | mg/L  | 15.2%     |                   |
| CTPXX-11-12-15                                 | 11/12/15 | Cadmium   | 0.051   | 0.051  | mg/L  | 0.4%      | 95%               |
|  |          | Lead      | 0.310   | 0.310  | mg/L  | 0.0%      | 93%               |
| Lab Duplicate                                  |          | Manganese | 0.002   | 0.003  | mg/L  | -16.0%    | 96%               |
|  |          | Zinc      | 0.850   | 0.847  | mg/L  | 0.4%      | 93%               |
| 006/CTP Outfall                                | 11/13/15 | Cadmium   | 0.004   | 0.004  | mg/L  | -2.8%     | 107%              |
|  |          | Lead      | 0.003   | 0.004  | mg/L  | -18.2%    | 97%               |
| Lab Duplicate                                  |          | Manganese | 18.0    | 18.1   | mg/L  | -0.6%     | 99%               |
|  |          | Zinc      | 0.194   | 0.192  | mg/L  | 1.0%      | 94%               |
|  |          | pH        | 7.17    | 7.16   | s.u.  | 0.1%      |                   |
|  |          | TSS       | 1.0     | 1.0    | mg/L  | 0.0%      |                   |
| 006/CTP Outfall                                | 11/16/15 | Cadmium   | 0.003   | 0.003  | mg/L  | 6.1%      | 100%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 93%               |
| Lab Duplicate                                  |          | Manganese | 31.3    | 31.5   | mg/L  | -0.6%     | 100%              |
|  |          | Zinc      | 0.207   | 0.208  | mg/L  | -0.5%     | 93%               |
|  |          | pH        | 7.05    | 7.04   | s.u.  | 0.1%      |                   |
|  |          | TSS       | 1.8     | 1.8    | mg/L  | 0.0%      |                   |
| Kellogg Tunnel                                 | 11/16/15 | Cadmium   | 0.059   | 0.059  | mg/L  | -0.5%     |                   |
|  |          | Lead      | 0.445   | 0.444  | mg/L  | 0.2%      |                   |
| QC Sample                                      |          | Manganese | 75.8    | 76.1   | mg/L  | -0.4%     |                   |
|  |          | Zinc      | 37.8    | 37.5   | mg/L  | 0.8%      |                   |
|  |          | pH        | 3.70    | 3.70   | s.u.  | 0.0%      |                   |
|  |          | TSS       | 55.0    | 54.0   | mg/L  | 1.8%      |                   |
| Kellogg Tunnel                                 | 11/16/15 | Cadmium   | 0.059   | 0.060  | mg/L  | -1.3%     | 101%              |
|  |          | Lead      | 0.445   | 0.449  | mg/L  | -0.9%     | 95%               |
| Lab Duplicate                                  |          | Manganese | 75.8    | 76.1   | mg/L  | -0.4%     |                   |
|  |          | Zinc      | 37.8    | 38.1   | mg/L  | -0.8%     |                   |
|  |          | pH        |         |        | s.u.  |           |                   |
|  |          | TSS       |         |        | mg/L  |           |                   |
| 006/CTP Outfall                                | 11/18/15 | Cadmium   | 0.004   | 0.004  | mg/L  | 0.0%      | 100%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 93%               |
| Lab Duplicate                                  |          | Manganese | 29.3    | 29.6   | mg/L  | -1.0%     |                   |

| SAMPLE   | DATE     | PARAMETER | VALUE   | QC/dup | UNITS | PRECISION | MATRIX SPIKE DATA |
|--|----------|-----------|---------|--------|-------|-----------|-------------------|
| LOCATION                                       |          |           | RESULTS |        |       | % RPD     | % RECOVERY        |
|  |          | Zinc      | 0.223   | 0.226  | mg/L  | -1.3%     | 92%               |
|  |          | pH        | 7.13    | 7.14   | s.u.  | -0.1%     |                   |
|  |          | TSS       | 1.0     | 1.0    | mg/L  | 0.0%      |                   |
| PTM Discharge                                  | 11/19/15 | Cadmium   | 1.21    | 1.21   | mg/L  | 0.0%      |                   |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      |                   |
| QC Sample                                      |          | Manganese |         |        | mg/L  |           |                   |
|  |          | Zinc      | 8.93    | 9.00   | mg/L  | -0.8%     |                   |
|  |          | pH        | 6.85    | 7.31   | s.u.  | -6.5%     |                   |
|  |          | TSS       | 0.4     | 0.6    | mg/L  | -40.0%    |                   |
| Performance Evaluation Sample (CTPXX-11-19-15) | 11/19/15 | Cadmium   | 0.055   | 0.050  | mg/L  | 9.7%      |                   |
|  |          | Lead      | 0.331   | 0.300  | mg/L  | 9.8%      |                   |
|  |          | Zinc      | 0.897   | 0.730  | mg/L  | 20.5%     |                   |
| CTPXX-11-19-15                                 | 11/19/15 | Cadmium   | 0.055   | 0.055  | mg/L  | 1.1%      | 99%               |
|  |          | Lead      | 0.331   | 0.328  | mg/L  | 0.9%      | 97%               |
| Lab Duplicate                                  |          | Manganese | 0.002   | 0.002  | mg/L  | 0.0%      | 99%               |
|  |          | Zinc      | 0.897   | 0.893  | mg/L  | 0.4%      | 97%               |
| 006/CTP Outfall                                | 11/20/15 | Cadmium   | 0.002   | 0.002  | mg/L  | -13.3%    | 101%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 101%              |
| Lab Duplicate                                  |          | Manganese | 17.0    | 17.1   | mg/L  | -0.6%     | 100%              |
|  |          | Zinc      | 0.269   | 0.264  | mg/L  | 1.9%      | 97%               |
|  |          | pH        | 7.07    | 7.05   | s.u.  | 0.3%      |                   |
|  |          | TSS       | 0.8     | 0.8    | mg/L  | 0.0%      |                   |
| 006/CTP Outfall                                | 11/23/15 | Cadmium   | 0.004   | 0.004  | mg/L  | 0.0%      | 102%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 96%               |
| Lab Duplicate                                  |          | Manganese | 30.5    | 30.6   | mg/L  | -0.3%     | 93%               |
|  |          | Zinc      | 0.238   | 0.239  | mg/L  | -0.4%     | 96%               |
|  |          | pH        | 7.09    | 7.06   | s.u.  | 0.4%      |                   |
|  |          | TSS       | 1.2     | 1.2    | mg/L  | 0.0%      |                   |
| Kellogg Tunnel                                 | 11/23/15 | Cadmium   | 0.059   | 0.060  | mg/L  | -1.2%     | 105%              |
|  |          | Lead      | 0.526   | 0.528  | mg/L  | -0.4%     | 97%               |
| Lab Duplicate                                  |          | Manganese | 78.2    | 80.0   | mg/L  | -2.3%     | 96%               |
|  |          | Zinc      | 38.5    | 38.6   | mg/L  | -0.3%     | 83%               |
|  |          | pH        |         |        | s.u.  |           |                   |
|  |          | TSS       |         |        | mg/L  |           |                   |
| 006/CTP Outfall                                | 11/25/15 | Cadmium   | 0.004   | 0.002  | mg/L  | 44.1%     | 97%               |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 92%               |
| Lab Duplicate                                  |          | Manganese | 36.1    | 36.0   | mg/L  | 0.3%      |                   |
|  |          | Zinc      | 0.261   | 0.257  | mg/L  | 1.5%      | 98%               |
|  |          | pH        | 7.12    | 7.09   | s.u.  | 0.4%      |                   |
|  |          | TSS       | 1.2     | 1.2    | mg/L  | 0.0%      |                   |
| Performance Evaluation Sample (CTPXX-11-26-15) | 11/26/15 | Cadmium   | 0.053   | 0.050  | mg/L  | 4.9%      |                   |
|  |          | Lead      | 0.319   | 0.300  | mg/L  | 6.1%      |                   |
|  |          | Zinc      | 0.868   | 0.730  | mg/L  | 17.3%     |                   |
| 006/CTP Outfall                                | 11/30/15 | Cadmium   | 0.003   | 0.003  | mg/L  | 3.5%      | 104%              |
|  |          | Lead      | 0.003   | 0.003  | mg/L  | 0.0%      | 97%               |
| Lab Duplicate                                  |          | Manganese | 19.5    | 19.6   | mg/L  | -0.5%     | 116%              |
|  |          | Zinc      | 0.215   | 0.217  | mg/L  | -0.9%     | 98%               |
|  |          | pH        | 6.91    | 5.87   | s.u.  | 16.3%     |                   |



|                      |          | Bunker Hill Superfund Site     |       |           |        |           |                             |
|----------------------|----------|--------------------------------|-------|-----------|--------|-----------|-----------------------------|
|                      |          | Kellogg, Idaho                 |       |           |        |           |                             |
|                      |          | Central Treatment Plant Review |       |           |        |           |                             |
|                      |          | Month: Nov-15                  |       |           |        |           |                             |
| CONCENTRATION (mg/L) |          |                                |       |           |        |           |                             |
| SAMPLE               | DATE     | PARAMETER                      | SPIKE | DUPLICATE | SPIKE  | PRECISION |                             |
| LOCATION             |          |                                | ADDED | RESULT    | RESULT | % RPD     | COMMENTS                    |
| 006/CTP Outfall      | 11/02/15 | Cadmium                        | 1.00  | 0.94      | 0.95   | 0.6%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.949     | 0.961  | 1.3%      |                             |
|                      |          | Manganese                      | 1.00  | 30.2      | 30.1   | 0.3%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.13      | 1.14   | 1.1%      |                             |
|                      |          |                                |       |           |        |           |                             |
| Kellogg Tunnel       | 11/02/15 | Cadmium                        | 1.00  | 1.03      | 1.04   | 0.9%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 1.39      | 1.38   | 0.8%      |                             |
|                      |          | Manganese                      | 1.00  | 73.5      | 72.9   | 0.9%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 44.4      | 44.7   | 0.6%      |                             |
|                      |          |                                |       |           |        |           |                             |
| Rinse Blank          | 11/04/15 | Cadmium                        | 1.00  | 0.985     | 1.010  | 2.2%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.918     | 0.925  | 0.8%      |                             |
|                      |          | Manganese                      | 1.00  | 0.931     | 0.954  | 2.5%      | Sample conc. >> spike level |
|                      |          | Zinc                           |       |           |        |           |                             |
|                      |          |                                |       |           |        |           |                             |
| RB-11-04-15          |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/04/15 | Cadmium                        | 1.00  | 0.964     | 0.973  | 0.9%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.882     | 0.903  | 2.3%      |                             |
|                      |          | Manganese                      | 1.00  | 28.1      | 29.0   | 3.0%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.19      | 1.22   | 2.5%      |                             |
|                      |          |                                |       |           |        |           |                             |
| PE Sample            | 11/05/15 | Cadmium                        | 1.00  | 1.020     | 1.030  | 1.1%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 1.27      | 1.27   | 0.1%      |                             |
|                      |          | Manganese                      | 1.00  | 0.987     | 0.992  | 0.5%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.74      | 1.75   | 0.5%      |                             |
|                      |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/06/15 | Cadmium                        | 1.00  | 1.04      | 1.03   | 0.9%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.961     | 0.947  | 1.5%      |                             |
|                      |          | Manganese                      | 1.00  | 24.6      | 24.4   | 0.9%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.41      | 1.40   | 0.9%      |                             |
|                      |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/09/15 | Cadmium                        | 1.00  | 1.04      | 10.40  | 0.5%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.963     | 0.963  | 0.4%      |                             |
|                      |          | Manganese                      | 1.00  | 33.3      | 33.1   | 0.7%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.20      | 1.18   | 1.0%      |                             |
|                      |          |                                |       |           |        |           |                             |
| Kellogg Tunnel       | 11/09/15 | Cadmium                        | 1.00  | 1.05      | 1.06   | 0.9%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 1.39      | 1.40   | 0.6%      |                             |
|                      |          | Manganese                      | 1.00  | 74.0      | 74.9   | 1.2%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 49.7      | 50.9   | 2.5%      |                             |
|                      |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/11/15 | Cadmium                        | 1.00  | 0.971     | 0.981  | 1.1%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.964     | 0.972  | 0.8%      |                             |
|                      |          | Manganese                      | 1.00  | 28.8      | 27.8   | 3.3%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.15      | 1.12   | 2.4%      |                             |
|                      |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/13/15 | Cadmium                        | 1.00  | 1.070     | 1.070  | 0.2%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.977     | 0.974  | 0.2%      |                             |
|                      |          | Manganese                      | 1.00  | 19.1      | 19.0   | 0.8%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.13      | 1.13   | 0.2%      |                             |
|                      |          |                                |       |           |        |           |                             |
| PE Sample            | 11/12/15 | Cadmium                        | 1.00  | 0.995     | 0.997  | 0.2%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 1.24      | 1.24   | 0.0%      |                             |
|                      |          | Manganese                      | 1.00  | 0.942     | 0.955  | 1.4%      | Sample conc. >> spike level |
|                      |          | Zinc                           | 1.00  | 1.77      | 1.78   | 0.1%      |                             |
|                      |          |                                |       |           |        |           |                             |
| 006/CTP Outfall      | 11/16/15 | Cadmium                        | 1.00  | 1.010     | 0.999  | 1.0%      |                             |
| <b>MS/MSD</b>        |          | Lead                           | 1.00  | 0.938     | 0.931  | 0.7%      |                             |

|                 |          |           |      |       |       |      |                             |  |
|-----------------|----------|-----------|------|-------|-------|------|-----------------------------|--|
|                 |          | Manganese | 1.00 | 32.2  | 32.3  | 0.5% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.14  | 1.14  | 0.4% |                             |  |
| Kellogg Tunnel  | 11/16/15 | Cadmium   | 1.00 | 1.06  | 1.07  | 1.3% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 1.37  | 1.39  | 1.5% |                             |  |
|                 |          | Manganese | 1.00 | 78.1  | 78.1  | 0.1% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 38.8  | 39.3  | 1.3% |                             |  |
| 006/CTP Outfall | 11/18/15 | Cadmium   | 1.00 | 0.998 | 1.000 | 1.3% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 0.912 | 0.925 | 1.4% |                             |  |
|                 |          | Manganese | 1.00 | 30.7  | 30.8  | 0.5% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.14  | 1.14  | 0.6% |                             |  |
| PE Sample       | 11/19/15 | Cadmium   | 1.00 | 1.040 | 1.040 | 0.1% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 1.30  | 1.30  | 0.2% |                             |  |
| CTPXX-11-12-15  |          | Manganese | 1.00 | 1.000 | 0.991 | 1.1% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.86  | 1.86  | 0.0% |                             |  |
| 006/CTP Outfall | 11/20/15 | Cadmium   | 1.00 | 1.000 | 1.010 | 0.5% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 1.010 | 1.010 | 0.1% |                             |  |
|                 |          | Manganese | 1.00 | 18.1  | 18.0  | 0.5% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.22  | 1.23  | 1.2% |                             |  |
| 006/CTP Outfall | 11/23/15 | Cadmium   | 1.00 | 1.040 | 1.030 | 1.7% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 0.969 | 0.956 | 1.3% |                             |  |
|                 |          | Manganese | 1.00 | 31.9  | 31.5  | 1.3% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.21  | 1.20  | 1.3% |                             |  |
| Kellogg Tunnel  | 11/23/15 | Cadmium   | 1.00 | 1.10  | 1.10  | 0.8% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 1.49  | 1.49  | 0.4% |                             |  |
|                 |          | Manganese | 1.00 | 80.8  | 79.2  | 2.0% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 39.5  | 39.3  | 0.4% |                             |  |
| 006/CTP Outfall | 11/25/15 | Cadmium   | 1.00 | 1.01  | 0.98  | 3.3% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 0.956 | 0.920 | 4.1% |                             |  |
|                 |          | Manganese | 1.00 | 37.0  | 36.5  | 1.5% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.21  | 1.24  | 2.7% |                             |  |
| 006/CTP Outfall | 11/30/15 | Cadmium   | 1.00 | 1.02  | 1.04  | 1.5% |                             |  |
| <b>MS/MSD</b>   |          | Lead      | 1.00 | 0.958 | 0.972 | 1.5% |                             |  |
|                 |          | Manganese | 1.00 | 21.0  | 20.6  | 1.9% | Sample conc. >> spike level |  |
|                 |          | Zinc      | 1.00 | 1.17  | 1.20  | 1.9% |                             |  |

**USACE PRIME CONTRACTOR**  
**Monthly Record of Work-Related Injuries/Illnesses & Exposure**

US Army Corps of Engineers

Month: November 2013

Page: 4 of 2

In accordance with the provisions of EM 380-1-1, Section 01 Program Management, Paragraph C-1, D. Accidents Reporting and Recording, paragraph (1) D.O.S. You, (the Prime Contractor) shall provide a monthly record of all injuries and illnesses suffered inside and outside work (Non-Residential separate and accident experiences of the Prime Contractor and its sub-contractors). As a minimum, these reports shall include adequate work hours (not including travel time), date of injury or illness, place where the data elements listed below, detail and criteria for accident data element is found in 38 CFR Part 1904. [The maximum use of OSHA 300 Log is required by OSHA, much information can be obtained from these logs. If there is no accident data element is required after it is submitted to USACE ERG, you must correlate the USACE ERG Form 100, Report of Accidents Investigation Report, All reportable accidents. If you're not sure whether a case is reportable, call your local Safety and Occupational Health Office for help.

| Contractor       | Job Title | Date Employee began work                       | Where the accident occurred | Description of Injury or Illness | Date Away From Work | On-the-job transfer or restriction | Days away from work | Number of Days away from work (days) |
|------------------|-----------|--|-----------------------------|----------------------------------|---------------------|------------------------------------|---------------------|--------------------------------------|
| Leica Geosystems | Age: 29   | Date of Injury or onset of illness: 10/20/2013 | Contractor Work             |                                  |                     |                                    |                     |                                      |

No accidents reported

|   |   |   |
|---|---|---|
| IBACE Command<br>Contractor Name:<br>Contractor Number:<br>Project Title:<br>City & State:<br>IBACE Office: | Scoville Contracting Inc.<br>USACE WA 742-C-1778<br>Op & Mkt. Department - Dam/Bunker Hill<br>Ketlara, ID 83837<br>Eastern Environmental Project Office | Total: 0 0 0 0 0 0 0 0 0<br>Certification of Record:<br>Name of Person Submitting Record: <u>John D. Johnson</u><br>Signature: <u>John D. Johnson</u><br>Date: <u>12/2/13</u> |
|---|---|---|

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: November 05, 2015

Inspected By:

Gary Fulton, Steve Brunner

| Item Inspected                    | Condition          | Comments                               |    |
|-----------------------------------|--------------------|--|----|
| Channel Sections and Joints       | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Inlet Connection @ KT     | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Outlet/Pipeline Inlet     | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Bottom (during low flows) | <b>Good</b> / Poor |  | Ok |
| Bottom Joints (during low flows)  | <b>Good</b> / Poor |  | Ok |
| Trash Rack Assembly Rail Units    | <b>Good</b> / Poor | Check for corrosion and bolt tightness | Ok |
| Trash Racks                       | <b>Good</b> / Poor | Removed debris from trash racks        |    |
| Parshall Flume                    | <b>Good</b> / Poor | Check fiberglass and joint connections | Ok |

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.03 mgd (1409 gpm), pH at this time is 3.51

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

**Operators observed no mill discharge in the flume/trash rack area at this time.**

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: November 12, 2015

Inspected By:

Gary Coast, Steve Brunner

| Item Inspected                    | Condition          | Comments                               |    |
|-----------------------------------|--------------------|--|----|
| Channel Sections and Joints       | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Inlet Connection @ KT     | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Outlet/Pipeline Inlet     | <b>Good</b> / Poor | Check for cracks                       | Ok |
| Channel Bottom (during low flows) | <b>Good</b> / Poor |  | Ok |
| Bottom Joints (during low flows)  | <b>Good</b> / Poor |  | Ok |
| Trash Rack Assembly Rail Units    | <b>Good</b> / Poor | Check for corrosion and bolt tightness | Ok |
| Trash Racks                       | <b>Good</b> / Poor | Removed debris from trash racks        |    |
| Parshall Flume                    | <b>Good</b> / Poor | Check fiberglass and joint connections | Ok |

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.00 mgd (1390 gpm), pH at this time is 3.55

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

**Operators observed no mill discharge in the flume/trash rack area at this time.**

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.

Results will be include with the Daily Quality Control Report and monthly DMR.

Date: November 19, 2015

Inspected By:

Steve Brunner, Gary Coast

| Item Inspected                    | Condition   | Comments                               |    |
|-----------------------------------|-------------|--|----|
| Channel Sections and Joints       | Good / Poor | Check for cracks                       | Ok |
| Channel Inlet Connection @ KT     | Good / Poor | Check for cracks                       | Ok |
| Channel Outlet/Pipeline Inlet     | Good / Poor | Check for cracks                       | Ok |
| Channel Bottom (during low flows) | Good / Poor |  | Ok |
| Bottom Joints (during low flows)  | Good / Poor |  | Ok |
| Trash Rack Assembly Rail Units    | Good / Poor | Check for corrosion and bolt tightness | Ok |
| Trash Racks                       | Good / Poor | Removed debris from trash racks        |    |
| Parshall Flume                    | Good / Poor | Check fiberglass and joint connections | Ok |

General Comments: Removed debris from both trash racks.

Bunker mine has no pump running at this time.

The Kellogg Tunnel flow at this time is 0.86 mgd (597 gpm), pH at this time is 2.70

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

**Operators observed no mill discharge in the flume/trash rack area at this time.**

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: November 26, 2015

Inspected By:

Steve Brunner, Gary Coast

| Item Inspected                    | Condition   | Comments                               |    |
|-----------------------------------|-------------|--|----|
| Channel Sections and Joints       | Good / Poor | Check for cracks                       | Ok |
| Channel Inlet Connection @ KT     | Good / Poor | Check for cracks                       | Ok |
| Channel Outlet/Pipeline Inlet     | Good / Poor | Check for cracks                       | Ok |
| Channel Bottom (during low flows) | Good / Poor |  | Ok |
| Bottom Joints (during low flows)  | Good / Poor |  | Ok |
| Trash Rack Assembly Rail Units    | Good / Poor | Check for corrosion and bolt tightness | Ok |
| Trash Racks                       | Good / Poor | Removed debris from trash racks        |    |
| Parshall Flume                    | Good / Poor | Check fiberglass and joint connections | Ok |

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 2.03 mgd (1410 gpm), pH at this time is 3.56.

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

**Operators observed no mill discharge in the flume/trash rack area at this time.**



One Government Gulch - PO Box 929      Kellogg ID 83837-0929      (208) 784-1258      Fax (208) 783-0

Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 02-Nov-15

Received: 02-Nov-15

Reported: 03-Nov-15 16:50

| LAB #   | WSK0003-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-02-15     | -           | - | - | - | - | - |
| Reporting Limit                               | 11/02/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0025 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 29.1        | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.186       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.10 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.8         | - | - | - | - | - |

Kirby Gray  
Technical Director

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of 3



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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 02-Nov-15

Received: 02-Nov-15

Reported: 05-Nov-15 13:07

| LAB #   | WSK0004-01       | -        | - | - | - | - | - |
|---|------------------|----------|---|---|---|---|---|
| SAMPLE ID                                     | KT-11-02-15      | -        | - | - | - | - | - |
| Reporting Unit                                | 11/02/2015 07:30 | -        | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |          |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0500   | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | 0.449    | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 73.0 [2] | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 42.9 [2] | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |          |   |   |   |   |   |
| pH  | pH Units         | 3.62 [1] | - | - | - | - | - |
| Total Susp. Solids                            | mg/L             | 59.0     | - | - | - | - | - |

John Kern  
Laboratory Director

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 04-Nov-15        |
|  |                | Received: 04-Nov-15       |
|  |                | Reported: 05-Nov-15 13:09 |

| LAB #           | WSK0038-01       | WSK0038-02       | - | - | - | - |
|-----------------|------------------|------------------|---|---|---|---|
| SAMPLE ID       | RB-11-04-15      | TB-11-04-35      | - | - | - | - |
| Reporting Limit | 11/04/2015 06:00 | 11/04/2015 06:00 | - | - | - | - |

**Metals (Total) (Water)**

|         |             |             |             |   |   |   |   |
|---------|-------------|-------------|-------------|---|---|---|---|
| Cadmium | 0.0100 mg/L | <0.0009 [2] | <0.0009 [2] | - | - | - | - |
| Lead    | 0.0500 mg/L | <0.0000 [2] | <0.0010 [2] | - | - | - | - |
| Zinc    | 0.020 mg/L  | <0.004 [2]  | <0.004 [2]  | - | - | - | - |

John Kern  
Laboratory Director

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 04-Nov-15

Received: 04-Nov-15

Reported: 05-Nov-15 13:06

| LAB #           | WSK0037-01       | WSK0037-02       | - | - | - | - |
|-----------------|------------------|------------------|---|---|---|---|
| SAMPLE ID       | 006-11-04-15     | QC-11-04-15      | - | - | - | - |
| Reporting Limit | 11/04/2015 06:00 | 11/04/2015 06:00 | - | - | - | - |

  

| Metals (Total) (Water) |             |             |             |   |   |   |
|------------------------|-------------|-------------|-------------|---|---|---|
| Cadmium                | 0.0100 mg/L | 0.0038 [2]  | 0.0037 [3]  | - | - | - |
| Lead                   | 0.0500 mg/L | <0.0000 [4] | <0.0010 [4] | - | - | - |
| Manganese              | 0.0200 mg/L | 28.7        | 28.4        | - | - | - |
| Zinc                   | 0.020 mg/L  | 0.263       | 0.257       | - | - | - |

  

| Classical Chemistry Parameters (Water) |          |          |          |   |   |   |
|--|----------|----------|----------|---|---|---|
| pH                                     | pH Units | 6.92 [1] | 6.93 [1] | - | - | - |
| Total Susp. Solids                     | 5.0 mg/L | 5.0      | 7.0      | - | - | - |

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Laboratory Director

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 05-Nov-15        |
|  |                | Received: 06-Nov-15       |
|  |                | Reported: 05-Nov-15 15:45 |

| LAB #   | WSK0103-01       | WSK0103-02       | WSK0103-03       | -      | - | - |
|---|------------------|------------------|------------------|--------|---|---|
| SAMPLE ID                                     | KT-11-05-15      | PTM-11-05-15     | CTPKX-11-05-15   | -      | - | - |
| Reporting Unit                                | 11/05/2015 07:30 | 11/05/2015 08:00 | 11/05/2015 07:00 | -      | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |                  |                  |        |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0816           | 1.18             | 0.0525 | - | - |
| Lead  | 0.0500 mg/L      | 0.441            | <0.0030 [3]      | 0.316  | - | - |
| Manganese                                     | 0.0200 mg/L      | 78.4             | 0.464            | -      | - | - |
| Zinc  | 0.020 mg/L       | 39.4             | 8.55             | 0.839  | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |                  |                  |        |   |   |
| pH  | pH Units         | 3.58 [1]         | 6.91 [1]         | -      | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 56.0             | 0.4 [2]          | -      | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 06-Nov-15

Received: 06-Nov-15

Reported: 09-Nov-15 15:44

| LAB #   | WSK0102-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-06-15     | -           | - | - | - | - | - |
| Reporting Limit                               | 11/06/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0104      | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [4] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 23.6        | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.473       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.10 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.6         | - | - | - | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 09-Nov-15

Received: 09-Nov-15

Reported: 10-Nov-15 13:42

| LAB #   | WSKD138-01       | -          | - | - | - | - | - |
|---|------------------|------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-09-15     | -          | - | - | - | - | - |
| Reporting Unit                                | 11/09/2015 06:00 | -          | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |            |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0042 [1] | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | 0.0030 [1] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 32.5 [2]   | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.226      | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |            |   |   |   |   |   |
| pH  | pH Units         | 7.13       | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.6        | - | - | - | - | - |

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Ferguson Contracting

901 N. Division

Pinehurst, ID 83850

Project: BHCTP

Sampled: 09-Nov-15

Received: 09-Nov-15

Reported: 13-Nov-15 15:22

| LAB #   | WSKD139-01       | -        | - | - | - | - | - |
|---|------------------|----------|---|---|---|---|---|
| SAMPLE ID                                     | KT-11-09-15      | -        | - | - | - | - | - |
| Reporting Unit                                | 11/09/2015 07:30 | -        | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |          |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0622   | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | 0.461    | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 73.3 [2] | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 43.5 [2] | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |          |   |   |   |   |   |
| pH  | pH Units         | 3.63     | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 50.0     | - | - | - | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 11-Nov-15

Received: 11-Nov-15

Reported: 12-Nov-15 15:17

| LAB #   | WSK0184-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-11-15     | -           | - | - | - | - | - |
| Reporting Unit                                | 11/11/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0026 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 27.9 [1]    | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.186       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.10 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 0.8 [2] [4] | - | - | - | - | - |

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 12-Nov-15        |
|  |                | Received: 13-Nov-15       |
|  |                | Reported: 17-Nov-15 14:30 |

| LAB #   | WSKG029-01       | WSKG029-02       | -      | - | - | - | - |
|---|------------------|------------------|--------|---|---|---|---|
| SAMPLE ID                                     | KT-11-12-15      | CTPKX-11-12-15   | -      | - | - | - | - |
| Reporting Unit                                | 11/12/2015 07:30 | 11/12/2015 07:00 | -      | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |                  |        |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0576           | 0.0511 | - | - | - | - |
| Lead  | 0.0500 mg/L      | 0.502            | 0.310  | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 75.9             | -      | - | - | - | - |
| Zinc  | 0.020 mg/L       | 38.0             | 0.850  | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |                  |        |   |   |   |   |
| pH  | pH Units         | 3.58 [1]         | -      | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 59.0             | -      | - | - | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 13-Nov-15

Received: 13-Nov-15

Reported: 16-Nov-15 15:31

| LAB #   | WSK0228-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-13-15     | -           | - | - | - | - | - |
| Reporting Unit                                | 11/13/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0035 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 18.0        | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.194       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.17 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.0         | - | - | - | - | - |

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Ferguson Contracting

901 N. Division

Pinehurst, ID 83850

Project: BHCTP

Sampled: 16-Nov-15

Received: 16-Nov-15

Reported: 17-Nov-15 14:29

| LAB #   | WSK0000-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-16-15     | -           | - | - | - | - | - |
| Reporting Unit                                | 11/16/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0034 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 31.3        | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.207       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.05 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.8         | - | - | - | - | - |

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 16-Nov-15        |
|  |                | Received: 16-Nov-15       |
|  |                | Reported: 17-Nov-15 14:33 |

| LAB #   | WSK0062-01       | WSK0062-02       | -        | - | - | - |
|---|------------------|------------------|----------|---|---|---|
| SAMPLE ID                                     | KT-11-16-15      | QC-11-16-15      | -        | - | - | - |
| Reporting Limit                               | 11/16/2015 07:30 | 11/16/2015 07:30 | -        | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |                  |          |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0569           | 0.0592   | - | - | - |
| Lead  | 0.0500 mg/L      | 0.445            | 0.444    | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 75.8 [2]         | 76.1     | - | - | - |
| Zinc  | 0.020 mg/L       | 37.8             | 37.5 [2] | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |                  |          |   |   |   |
| pH  | pH Units         | 3.70 [1]         | 3.70 [1] | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 55.0             | 54.0     | - | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 18-Nov-15

Received: 19-Nov-15

Reported: 20-Nov-15 14:41

| LAB #   | WSK0012-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-18-15     | -           | - | - | - | - | - |
| Reporting Unit                                | 11/18/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0041 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [4] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 29.3 [3]    | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.223       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.13 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.0         | - | - | - | - | - |

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 19-Nov-15        |
|  |                | Received: 20-Nov-15       |
|  |                | Reported: 24-Nov-15 14:15 |

| LAB #   | WSK0337-01       | WSK0337-02       | WSK0337-03       | WSK0337-04       | -      | - |
|---|------------------|------------------|------------------|------------------|--------|---|
| SAMPLE ID                                     | KT-11-19-15      | PTM-11-19-15     | OC-11-19-15      | CTP00-11-19-15   | -      | - |
| Reporting Limit                               | 11/19/2015 07:30 | 11/19/2015 08:00 | 11/19/2015 08:00 | 11/19/2015 07:00 | -      | - |
| <b>Metals (Total) (Water)</b>                 |                  |                  |                  |                  |        |   |
| Cadmium                                       | 0.0100 mg/L      | 0.132            | 1.21             | 1.21             | 0.0651 | - |
| Lead  | 0.0500 mg/L      | 0.534            | <0.0030 [4]      | <0.0000 [4]      | 0.331  | - |
| Manganese                                     | 0.0200 mg/L      | 28.9             | -                | -                | -      | - |
| Zinc  | 0.020 mg/L       | 79.9 [1]         | 8.93             | 9.00             | 0.897  | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |                  |                  |                  |        |   |
| pH  | pH Units         | 6.91 [2]         | 6.85 [2]         | 2.98 [2]         | -      | - |
| Total Susp. Solids                            | 5.0 mg/L         | 29.0             | 0.4 [3]          | 0.6 [3]          | -      | - |

Kirby Gray  
Technical Director

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 20-Nov-15

Received: 20-Nov-15

Reported: 23-Nov-15 13:34

| LAB #   | WSK0336-01       | -           | - | - | - | - | - |
|---|------------------|-------------|---|---|---|---|---|
| SAMPLE ID                                     | 006-11-20-15     | -           | - | - | - | - | - |
| Reporting Unit                                | 11/20/2015 06:00 | -           | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0021 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 17.0        | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.289       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.07 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 0.6 [2]     | - | - | - | - | - |

Linda Johann  
Supervisor Microbiology Lab

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 23-Nov-15        |
|  |                | Received: 23-Nov-15       |
|  |                | Reported: 24-Nov-15 15:05 |

|   |                  |             |   |   |   |   |   |
|---|------------------|-------------|---|---|---|---|---|
| LAB #   | WSK0078-01       | -           | - | - | - | - | - |
| SAMPLE ID                                     | 006-11-23-15     | -           | - | - | - | - | - |
|   | 11/23/2015 06:00 | -           | - | - | - | - | - |
|   | Reporting Limit  |             |   |   |   |   |   |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0036 [2]  | - | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [4] | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 30.5 [3]    | - | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.238       | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |   |
| pH  | pH Units         | 7.09 [1]    | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.2         | - | - | - | - | - |

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Technical Director

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 23-Nov-15        |
|  |                | Received: 23-Nov-15       |
|  |                | Reported: 24-Nov-15 15:07 |

| LAB #   | WSK0079-01  | -                | - | - | - | - | - |
|---|-------------|------------------|---|---|---|---|---|
| SAMPLE ID                                     | KT-11-23-15 | -                | - | - | - | - | - |
|   |             | 11/23/2015 07:30 | - | - | - | - | - |
|   |             | Reporting Limit  | - | - | - | - | - |
| <b>Metals (Total) (Water)</b>                 |             |                  |   |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L | 0.0590           | - | - | - | - | - |
| Lead  | 0.0500 mg/L | 0.526            | - | - | - | - | - |
| Manganese                                     | 0.0200 mg/L | 78.2 [2]         | - | - | - | - | - |
| Zinc  | 0.020 mg/L  | 38.5             | - | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |             |                  |   |   |   |   |   |
| pH  | pH Units    | 3.77 [1]         | - | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L    | 47.0             | - | - | - | - | - |

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|  |                |                           |
|--|----------------|---------------------------|
| Ferguson Contracting<br>901 N. Division<br>Pinehurst, ID 83850 | Project: BHCTP | Sampled: 25-Nov-15        |
|  |                | Received: 25-Nov-15       |
|  |                | Reported: 30-Nov-15 15:56 |

|   |                  |             |   |   |   |   |
|---|------------------|-------------|---|---|---|---|
| LAB #   | WSKD427-01       | -           | - | - | - | - |
| SAMPLE ID                                     | 006-11-25-15     | -           | - | - | - | - |
|   | 11/25/2015 06:00 | -           | - | - | - | - |
| Reporting Unit                                |                  |             |   |   |   |   |
| <b>Metals (Total) (Water)</b>                 |                  |             |   |   |   |   |
| Cadmium                                       | 0.0100 mg/L      | 0.0036 [2]  | - | - | - | - |
| Lead  | 0.0500 mg/L      | <0.0000 [3] | - | - | - | - |
| Manganese                                     | 0.0200 mg/L      | 36.1 [3]    | - | - | - | - |
| Zinc  | 0.020 mg/L       | 0.281       | - | - | - | - |
| <b>Classical Chemistry Parameters (Water)</b> |                  |             |   |   |   |   |
| pH  | pH Units         | 7.12 [1]    | - | - | - | - |
| Total Susp. Solids                            | 5.0 mg/L         | 1.2         | - | - | - | - |

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 26-Nov-15 to 30-Nov-15

Received: 30-Nov-15

Reported: 01-Dec-15 11:52

| LAB #           | WSKD467-01       | WSKD467-02       | WSKD467-03       | WSKD467-04       | WSKD467-05       | - |
|-----------------|------------------|------------------|------------------|------------------|------------------|---|
| SAMPLE ID       | KT-11-26-15      | CTPXX-11-26-15   | 006-11-27-15     | 006-11-30-15     | KT-11-30-15      | - |
| Reporting Limit | 11/16/2015 07:00 | 11/16/2015 07:00 | 11/17/2015 06:00 | 11/30/2015 06:00 | 11/30/2015 07:00 | - |

**Metals (Total) (Water)**

|           |             |        |        |             |             |        |   |
|-----------|-------------|--------|--------|-------------|-------------|--------|---|
| Cadmium   | 0.0100 mg/l | 0.0570 | 0.0525 | 0.0029 [2]  | 0.0032 [2]  | 0.0559 | - |
| Lead      | 0.0500 mg/l | 0.474  | 0.319  | <0.0030 [3] | <0.0030 [3] | 0.455  | - |
| Manganese | 0.0200 mg/l | 77.5   | -      | 19.5 [3]    | 36.1        | 79.2   | - |
| Zinc      | 0.020 mg/l  | 37.6   | 0.868  | 0.215       | 0.244       | 37.7   | - |

**Classical Chemistry Parameters (Water)**

|                    |          |          |      |              |          |          |      |
|--------------------|----------|----------|------|--------------|----------|----------|------|
| pH                 | pH Units | 9.82 [1] | -    | 6.91 [1] [4] | 6.94 [1] | 9.83 [1] | -    |
| Total Susp. Solids | mg/l     | 5.0      | 27.0 | -            | 1.4      | 1.4      | 34.0 |

John Kem  
Laboratory Director